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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

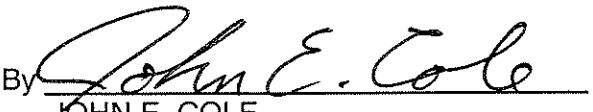
In the Matter of the Application of PUBLIC UTILITIES COMMISSION Instituting a Proceeding to Investigate Distributed Generation in Hawaii	)	DOCKET NO. 03-0371

DIVISION OF CONSUMER ADVOCACY'S RESPONSES TO THE PUBLIC UTILITIES COMMISSION ("COMMISSION")'S INFORMATION REQUESTS

Pursuant to the request of the Commission, the Consumer Advocate submits its **RESPONSES TO THE PUBLIC UTILITIES COMMISSION'S INFORMATION REQUESTS** in the above docketed matter.

DATED: Honolulu, Hawaii, November 22, 2004.

Respectfully submitted,

By 
JOHN E. COLE
Executive Director

DIVISION OF CONSUMER ADVOCACY

DOCKET NO. 03-0371,

DIVISION OF CONSUMER ADVOCACY'S RESPONSES TO THE

PUBLIC UTILITIES COMMISSION ("COMMISSION")'S

INFORMATION REQUESTS

Statutory Authorizations

PUC-IR-1 Do Hawaii electric utilities have authority under existing statutes and franchises to own distributed generation either directly or through an affiliate? If yes, please identify the specific statutes and franchises which authorize such activity. If no, please describe whether existing laws should be altered to permit utility ownership (either directly or through an affiliate) and if so, what changes are needed?

RESPONSE: Please see HECO-RT-1, pages 34 – 37, wherein HECO's witness essentially states this is a legal issue to be addressed in post hearing briefs.

PUC-IR-2 Are there any changes required to existing statutes, rules, or regulations to facilitate non-utility ownership of distributed generation ("DG") facilities?

RESPONSE: No, because the Commission does not have jurisdiction over non-utility ownership of DG facilities if a determination is made that these facilities are not deemed to be "public utilities."

PUC-IR-3 What is the impact of Hawaii's net energy metering law, codified at Hawaii Revised Statutes ("HRS") § 269-101-111, (and recently amended this past legislative session to allow eligible systems of up to 50 kilowatts ("kW") to sell excess energy to the utility) on customer decisions to invest in DG? Should the existing 50 kW size limitation be increased to facilitate DG? Should the existing net energy metering law be expanded to include technologies other than those specified in the statute? Please identify any other changes that should be made to net metering laws, and why?

RESPONSE: **Impact of Hawaii's Net Metering Law**

It is difficult to determine presently the impact of the net metering law which increased the size of eligible generators to 50 kWs because the increase was only recently authorized. The increase was passed to see if there would be greater interest and participation in the net metering program.

The net metering law was primarily intended to encourage development of renewable resources. In answering this question, a distinction needs to be recognized between the role of the state legislature to set state energy policy decisions to be implemented by the Commission, and the Commission's role of regulating the utilities under its jurisdiction including the successful deployment of renewable and fossil-fueled DG in Hawaii. The net metering law size limitation is a matter for the state legislature, rather than the Commission, to decide whether to increase or decrease as part of the state legislature's development of energy policies to be implemented by the Commission. On the other hand, the Commission's role is to facilitate the development of each utility's lowest reasonable cost IRP plan that incorporates the state legislature's energy policies to be implemented.

Expanding the Net Metering Law to Include Other Technologies

The existing net metering law should not be expanded to include other technologies since the other technologies would essentially be non-renewable resource technologies. Doing so would run counter to, and be in conflict with, the legislature's intent in passing the net metering law in the first place. The manner for the Commission to expand and encourage the development of DG technologies is through the consideration of externalities in the assessment of DG for Hawaii (see CA-T-1, page 52, line 4 through page 54, line 14). Externality benefits that can result from DG include, but are not necessarily limited to:

1. the ability to match some of the electric systems load growth with smaller DG supply-side resources that are deemed to be better for the environment, rather than installing large increments of fossil-fuel and generating units in a central location;
2. the ability to defer the addition of large fossil-fuel and generating units, and delivery system (transmission and distribution) improvements with strategically located DG technologies;
3. the ability to improve reliability and the quality of electrical service with DG units located in close proximity to customer loads;
4. the ability of the utility to reduce fossil fuel usage by:
   - avoiding delivery system losses that are incurred by large, fossil-fuel central generating units by locating DG near the customer load;

- installing DG technologies, such as CHP, near thermal loads to achieve higher thermal efficiencies;
- installing DG technologies that use renewable energy; and
- installing new technologies as such become commercially available at lower incremental costs than with large central generating units.

Externalities costs that can result from DG include, but are not necessarily limited to:

1. the loss of economy of scale benefits and the higher operating efficiencies of large central generating units compared to some types of DG technologies; and
2. the risks of performance of DG projects not directly under the ownership, operation and control of the electric utility.

In general, DG offers flexibility and more variety of technologies and applications than large central generating units, but has other costs and risks (see for example the Consumer Advocate's direct testimony CA-T-1, Sections IV.B.3-4, IV.C. and VI.A). Therefore, DG externalities, benefits and risks should be considered as an integral part of the analysis conducted of all supply-side resources.

A DG project should be subject to the same scrutiny, analysis and quantification of external costs and benefits, as would any other resource or DSM measure considered in developing an IRP. Therefore, the DG project should be evaluated in the IRP in the same manner as other

supply-side resource alternatives. This is necessary in order for the Commission's review, approval and implementation of the Utility's lowest, reasonable cost plan for meeting the electric service needs of the electric utility's customers.

On a practical level, the evaluation of supply and demand resources may not, on a meaningful level, incorporate a comparative analysis of the externalities in conjunction with the direct variables. Prior efforts to reach consensus on externalities and how to include externalities in the IRP process were not successful.

In summary, the Commission's role is not to expand the state legislative net metering law to include technologies other than the renewable technologies in its implementation of the state's energy policy. Rather, the Commission's role is to ensure the utility's IRP process is being utilized properly and to the fullest extent possible to develop the lowest, reasonable cost plan, and that the IRP process includes consideration of externalities.

Other Changes to Net Metering Laws

No other changes to the net metering laws should be proposed at this time.

Definition of Distributed Generation

PUC-IR-4 Should the Commission define distributed generation – and if so, how should it be defined? Should the definition be flexible or specific as to size and technology? Should the definition identify "eligible" technologies – and if so, how would such a list be derived? Or should the definition be sufficiently flexible to apply to a range of DG technologies, both those currently feasible as well as those not yet developed?

RESPONSE: **Definition of DG**

The Commission has already defined the DG that will be addressed in this proceeding in Order No. 20582, dated October 21, 2003. In that Order, the Commission stated that DG "involves the use of small scale electric generating technologies installed at, or in close proximity to, the end-users location." Thus, for the instant proceeding, DG has been defined as resources that are "small" and that are "generating" or supply-side resources. The distinction of "small" in the definition is addressed in the response to PUC-IR-6 and in rebuttal testimony filed in this docket.

Furthermore, the Commission's Order No. 20582 stated that the focus of this investigative docket is on supply-side resources, as opposed to distributed energy resources (DER), which includes targeted end-use and demand side management technologies in addition to DG (see also response to PUC-IR-5). The definition of DG is thus set forth in the Commission's Order No. 20582 in Section I Purpose of Investigation, and on page 1 of Exhibit CA-RT-100 (see 1.A. of the DG Matrix). Also, as noted in Exhibit CA-RT-100, it should be clarified that isolated and emergency/standby generating units are not considered DG for purposes of this proceeding (see Item 1.A.3. of the DG Matrix).

For purposes of this proceeding, if a customer is served by a generating unit and is not connected to the utility grid, the electric utility will not provide energy to, or receive energy from, the customer (see Exhibit CA-102, page 2 of 4). Customer-sited generating units in this situation would not be considered DG for purposes of this proceeding since there would be no need to consider the impact of such facility on the Utilities' electric distribution system (see CA-T-1, page 9, lines 11 – 18 and CA-RT-1, page 13, lines 9 – 18). Only DG that is directly connected to the electric utility system or customer-sited DG serving customers connected to the electric utility system is considered in the definition of DG for purposes of this proceeding since this situation may have a significant impact on the electric utility's distribution system (see Item 1)(A) 3.(a) of the DG Matrix).

In addition, an emergency/standby generator, by definition, is generation that is only used during the period when the electric utility service to the customer is temporarily interrupted. By definition, emergency or standby generation does not operate nor produce energy to serve the customer's load on a continuous basis. Rather, emergency or standby generation only serves the customer's load during periods when the generator is tested or when the utility system is not capable of serving the customer (see CA-T-1, page 10, lines 12 – 21 and CA-RT-1, page 13, line 19 through page 14, line 6). Thus, emergency/standby generators will

not be considered as a DG unit for purposes of this proceeding (see Item 1)(A)3.(b) of the DG Matrix).

On the other hand, if a generating unit is operated and used to serve load other than during periods of interruption and testing (as for instance in the County of Maui's proposed Virtual Power Plant concept), then the generator ceases to be defined as emergency/standby generator and would then be defined as DG (provided that it meets other definitional and interconnection DG requirements) see also responses to HREA-CA-RT-1-IR-3, HREA-CA-T-1-IR-2 and TGC/CA-SOP-IR-9b.

Size and Technology of DG

The definition of DG regarding size and technology is set forth as Item 1 of the DG Matrix (see CA-RT-100, pages 1 – 2). The definition as to size needs to be relative to each of the electric utility systems. As explained in the response to PUC-IR-6, the policy setting definition of DG size should not change, but the threshold DG size limitations, in terms of absolute MW amounts, will differ between the electric utility system on each island. The threshold will change on each electric utility system over time as changes occurred. Specific projects should be evaluated on a case-by-case basis using the policy setting definition of size.

With respect to technologies, the policies or rules governing the participation in Hawaii's electricity market through DG should not be limited to specific technologies or types of DG. New technologies may become commercially available and economically viable in the future. The

viability and feasibility of available or planned DG technologies is site specific and should be analyzed in each of the electric utility companies' IRP process to identify the lowest reasonable cost options for customers (see CA-T-1, pages 48 – 50).

Eligible DG technologies

Specific DG projects that should be implemented on each island electric utility system will need to be determined in the IRP process for each utility (see CA-T-1, pages 48 through 55 and Item 1.B.3. of the DG Matrix). In making this determination, each DG technology under consideration will have to meet financial viability scrutiny on a case-by-case basis.

In addition, the effect of DG on each utility system will need to be considered and evaluated for each island on a case-by-case basis in developing each utility's IRP. The reason is because the IRP requires the quantification of benefits and avoided costs for those DG installations whose output is dedicated to and utilized by the utility.

The benefit or impact of DG should be evaluated against the lowest, reasonable cost option of serving utility customer needs consistent with the electric utility companies' IRP plans. The IRP goal is to identify "meeting near and long term consumer energy needs in an efficient and reliable manner at the lowest reasonable cost." The "Governing Principles (Statement of Policy)" states that the IRP "shall be developed upon consideration and analyses of the costs, effectiveness, and benefits of all appropriate, available, and feasible supply-side and demand-side options";

and further provides that the IRP plans "shall give consideration to the plans' impacts upon the utility's consumers, the environment, culture, community lifestyles, the State's economy, and society." (See "A Framework For Integrated Resource Planning", revised May 22, 1992, Sections II.A. and II.B.)

The types of DG that should be included in the five-year action plan should be those that are commercially viable at the time that the plan is developed, and considered to be suitable for use in Hawaii. New technologies can be incorporated in the development of the next IRP so as not to interrupt the implementation of the five-year action plan in the Commission approved IRP (see CA-T-1, pages 79 – 81).

Finally, the process should continue to provide all the participants an opportunity to consider emerging technology that may become commercially viable subsequent to the submission of the current approved plan in developing the next IRP.

PUC-IR-5 Should the definition of distributed generation include DER, "distributed energy resources" and other demand side technologies or systems?

RESPONSE: No, in Commission Order No. 20582, Section I, page 1, the Commission clearly stated that for the instant proceeding "distributed generation involves the use of small scale electric <u>generating</u> technologies." (Underlining added for emphasis). The Order went on to discuss distributed energy resources or DER which encompasses demand-side management technologies. The Order then stated, in paragraph 2 of

Section I, that the focus of this "investigative docket is, however, on distributed generation." Thus, the Commission's intent to focus on supply-side resources is clear. See CA-T-1, page 9, CA-RT-1, page 12 and Item 1.A.2. of the DG Matrix.

PUC-IR-6 Should the Commission draw a distinction between "small scale" DG and other DG resources and if so, why? How should "small scale" DG be defined? What benefits can small scale DG offer (e.g., firm power, increased reliability, reduce transmission constraints) and what impacts does it have on the system?

RESPONSE: **Distinction of "Small Scale" DG Technology**

Yes, it is important to limit the DG policies in this proceeding to small scale electric generation (see CA-RT-1, pages 11-12) in order to develop the policies and guidelines that will allow for the successful development of DG in the State. Limiting the Commission's DG policies resulting from this proceeding to "small" electric generating facilities is important because the policy guidelines and directions can focus on projects within a framework that would not be applicable in all instances to customer-sited DG generation. For example, a potential customer-sited generating facility serving the hotels of Lanai would not be considered "small" on the island of Lanai (see application filed in Docket No. 03-0261). Therefore, this facility would fall outside the DG policy guidelines and direction resulting from this proceeding.

In other words, limiting DG policies to "small" electric generating facilities, where "small" is relative to the size of each distinct island

system, may prevent the DG policies established in the instant proceeding from automatically applying to unintended situations such as Lanai, where a single DG installation would have significant impact on the electric utility and its rate payers. Trying to develop policies for all sized generation in the instant proceeding would be impractical and could delay the development of small-scale DG markets in Hawaii.

Definition of "Small Scale" DG

Because of the diverse nature of each island system, the definition of the term "small" needs to convey that the term is relative to the size of each electric utility system (see CA-RT-1, pages 10 – 12). A policy setting definition of "small" is provided on page 1 of Exhibit CA-RT-100 (see Item 1)(A)2. of the DG Matrix). This exhibit also provides examples of what could be considered the upper size limit of generation (in MW) to be considered DG for purposes of this proceeding. It should be noted that although the threshold size limits shown in that exhibit may change over time as the utility's system loads, the loads of large customers and the location of such loads on the utility's grid change, the definition should not change.

Benefits of "Small Scale" DG

The benefits of supply-side, small scale DG generation and the impacts it has on utility systems is addressed in the Consumer Advocate's direct testimony at Section IV. Factors That Must Be Considered In Determining

The Deployment Of DG In Hawaii's Energy Market in the following subsections:

- Impact of Various DG Technologies on the Electric Utility's Systems in Hawaii and the Utility's Ability to Provide Reliable Service beginning on page 24;
- How DG Can Meet Load in a Cost Effective Manner beginning on page 33;
- Operational Issues that Must be Considered when Determining the Appropriate Size of DG Units Deemed Appropriate for Hawaii's Energy Market beginning on page 47; and
- Description of the Cost/Benefit Assessment to Identify Cost-Effective DG Technologies that Should be Installed in Hawaii beginning on page 50.

PUC-IR-7 Please comment on HECO's listed criteria (see e.g. Seki Testimony at 20) for determining whether a DG technology is "viable and feasible" for Hawaii. Should other factors be considered as well?

RESPONSE: The Consumer Advocate concurs with HECO's listed criteria for determining whether a DG technology is "viable and feasible" for Hawaii (see Item 1.B.1. of the DG Matrix). Other factors that should be considered are set forth in items 1.B.2. and 1.B.3. of the DG Matrix (see CA-RT-100, pages 1 - 2).

PUC-IR-8 Have the "multiple benefits" of DG cited in Life of the Land's testimony (Wooley at 2) ever been quantified for Hawaii as they have in the other

states mentioned in the testimony and if so, where can this information be found?

RESPONSE: No, not to the Consumer Advocate's knowledge.

PUC-IR-9 Please identify any additional information provided in response to any party's Information Requests or filed in other dockets that provides further documentation or evidence of:

a. whether there are transmission, distribution generation constraints which could be served by DG;

RESPONSE: The information needed to respond to this information request is presently not available to the Consumer Advocate since the Commission directed the focus of this proceeding on developing the policies for the deployment of DG in the State, as opposed to the installation of units at specific sites. As discussed in the Consumer Advocate's Direct and Rebuttal Testimonies, the specific sites/locations and types of DG that should be installed to alleviate the need for additional generation, or T&D system improvements should be determined in the development of each utility's IRP. The purpose of this proceeding was <u>not</u> to make such determination, which is consistent with Commission Order No. 20582.

b. the extent to which load growth is driving the need for distribution system enhancements;

RESPONSE: See the response to part a. of this information request.

c. where DG should be located to be most effective (and documentation for this conclusion); and

RESPONSE: See the response to part a. of this information request.

d. the availability or feasibility of alternative technologies.

RESPONSE: See the response to part a. of this information request.

To the extent that your testimony or prior responses do not already provide sufficient detail on these issues, please supplement your testimony with information on the above points.

RESPONSE: See the response to part a. of this information request.

PUC-IR-10 Please identify with specificity the type and size of DG that can be currently deployed in Hawaii to maximize the benefits and minimize costs.

RESPONSE: See the direct testimonies of HECO T-1 and T-2, and CA-T-1, pages 16-19.

PUC-IR-11 Identify with specificity existing environmental requirements which would impact the installation of DG and how this would occur? Are there any other regulatory requirements – e.g., Building Codes or zoning laws that would impact installation of DG and if so, identify these with specificity.

RESPONSE: See HECO's Preliminary Statement of Position, Issue 7 beginning at page 23; and HECO's response to CA-SOP-IR-5.

Impacts of Distributed Generation

Identify the impacts of DG on the distribution system with reference to the following specific questions.

PUC-IR-12 What are the beneficial impacts of DG on the transmission and distribution ("T&D") system and more importantly, how may they be quantified and assessed for value?

RESPONSE: The beneficial impacts of DG on the transmission and distribution ("T&D") system and how they may be quantified and assessed for value is discussed in the Consumer Advocate's direct testimony at Section IV.B.1., titled "Impact of DG on the Transmission and Distribution Systems of Hawaii's Electric Utilities" beginning at page 33 and in the Consumer Advocate's rebuttal testimony at Section VII.C., titled "The Deployment of Cost-Effective Customer-Sited DG Should Be Considered in the Development of the Utilities' IRP, to the Extent Possible" beginning at page 42.

PUC-IR-13 What are the limits to the level of DG that the grid can absorb without adverse impacts? Please identify studies or other documentation in support of your response.

RESPONSE: See the response to part a of PUC-IR-9. Generally, the amount of DG that can be absorbed without adverse impact is addressed in the interconnection standards. The recommended definition of DG (see Item 1.A. of the DG Matrix) provides for such a determination based on the specifics of a proposed DG project.

PUC-IR-14 What are the limits of bi-directional power?

RESPONSE: The limits of bi-directional power in the utility's grid are location and site specific and should be evaluated by a system impact study on a case-by-case basis as provided for in the utility's interconnection standards.

PUC-IR-15 Should the design of new distribution feeders consider DG?

RESPONSE: The Consumer Advocate believes that installation of specific DG should be considered when the utility is planning new distribution feeders in the development of each utility's IRP; but is not sure how the installation of DG would change new distribution feeder design based on the general information provided in this information request.

PUC-IR-16 Can the concept of micro-grids be made practical? Can they be effectively utilized in Hawaii?

RESPONSE: The practicality of the concept of micro-grids should be evaluated in the context of the utility's IRP process. The policies and framework for DG recommended by the Consumer Advocate in this proceeding would facilitate the deployment of DG in micro-grids **if** that concept were determined to be cost-effective in the IRP process for each utility.

PUC-IR-17 Should utilities be offered incentives to facilitate DG?

RESPONSE: DG should be developed to implement the utilities lowest reasonable cost IRP plan. If DG incentives are to be provided, the incentives that result in development of the lowest reasonable cost plan could be considered in the IRP process. Incentives solely for the promotion of DG, without regard as to whether the installation of the DG is consistent with the utility's IRP should not be considered.

PUC-IR-18 How can utility distribution practices be modified to enable DG to provide distribution deferral and be compensated for it?

RESPONSE: The Consumer Advocate is not sure as to whether utility distribution practices can be modified to enable DG to provide for distribution deferral. The Consumer Advocate contends that the IRP process should incorporate and give consideration to the utility's ability to defer distribution improvements through the installation of DG and thus be part of developing the lowest reasonable cost plan for the utility. The compensation for DG deferring distribution improvements should be recognized in the unbundled rate component of a locational credit as discussed in the Consumer Advocate's testimonies and illustrated in Exhibit CA-RT-101.

Ownership

PUC-IR-19 If utilities are permitted to own distributed generation through affiliates, are any changes required to existing statutes, rules and regulations governing affiliates to guard against cross subsidization, to protect ratepayers and ensure competition between affiliates and non-affiliates on equal footing? Please identify potentially applicable statutes, rules and regulations and specify necessary changes.

RESPONSE: There are no changes to the existing statutes, rules and regulations governing affiliates. The concerns of potential cross-subsidization of the utility's un-regulated operations by its regulated operations exists whenever a utility provides service to a non-regulated entity using utility resources or when a utility receives service from a non-regulated entity (see for example CA-RT-1, page 24, line 5 through page 25 line 22). For example, The Gas Company uses the same resources to provide the

regulated gas and non-regulated bottled gas service. The local incumbent telephone company uses the same resources to provide regulated and non-regulated services. Similarly, HECO uses the same resources to provide service to both the utility and non-utility operations of its parent, HEI. In all of the above situations, there are rules and reporting requirements that assist the Commission and the Consumer Advocate in determining whether cross-subsidization of the non-regulated operations by the regulated operations is occurring.

Similar to the examples cited, the Commission's policies should set forth a framework that includes a requirement for utilities that intend to provide un-regulated customer-sited DG services to establish accounting mechanisms that will properly identify the costs and revenues of providing such DG services (see CA-RT-1, page 55, line 14 through page 56, line 3). This would entail the establishment of separate activity codes to account for the Utility's cost of installing customer-sited DG projects and the operating costs and revenues associated with such installations. In addition, internal company cost allocation procedures should be established to allow for an independent review of the allocation of common costs to DG projects in order to ensure that cross-subsidization of the un-regulated DG service is not occurring. These cost allocation manuals should be subject to the review and approval of the Commission.

The above items and the financial records should be available for review and subject to verification by the regulatory agencies so as to

ensure that revenue from electric customers does not subsidize the DG services. In addition, the Commission should require Utilities to treat customers with utility-owned DG the same as customers with non-utility owned DG in terms of rates, charges and utility services.

Interconnection

PUC-IR-20 What costs are associated with DG interconnection to the distribution grid?

a. If a utility overhead line is fully depreciated and upgrades or replacements are needed for distribution interconnection, does the DG customer pay for the upgrade replacement cost?

RESPONSE: Assuming that DG customer means DG owner, yes, the DG customer should pay for the cost incurred by the utility to accommodate the DG customer's interconnection. This would not include those costs that the utility would otherwise have incurred absent the DG customers' interconnection. Furthermore, the Commission has already ruled on who should pay for the costs of interconnection when an IPP is prepared to sell energy and capacity to the utility.

b. Should a DG customer be required to pay for distribution system upgrades that would have otherwise occurred in the absence of a DG interconnection?

RESPONSE: No, the DG customer should not be required to pay for distribution system upgrades that otherwise would have occurred in the absence of the DG interconnection.

c. Should subsequent DG customers on a particular feeder line be responsible for costs applied to the first DG customer on the line?

If so, what type of crediting mechanism should be put in place for the first customer?

RESPONSE: Yes, although it is not conceivable how such a situation could occur. Each DG customer should pay for the cost associated with its DG interconnection. These interconnection costs are only for the impact of connecting the DG to the grid. Costs that are incurred for system upgrades that otherwise would be made or required to reliably serve the utility's customers, or to benefit subsequent DG customers, should not be paid by the first DG customer. However, should a particular interconnection to a customer be used by other DG customers in the future it would be appropriate to credit the initial customers for their investments. The credit mechanism should be based on an allocation of investment costs based on demand and customer related facilities.

d. What mechanism should be used for recovery of these costs (i.e., fixed vs. demand charges, marginal cost vs. average cost, etc...)

RESPONSE: The mechanism is a lump sum payment of the utility's actual cost incurred for a DG customer to interconnect with the utility to be paid by the DG customer to the utility determined in accordance with the utility's interconnection standards and agreement.

PUC-IR-21 Should HECO's, HELCO's and MECO's Rule 14.H on interconnection specific to distributed generation be modified to further facilitate or encourage distributed generation? If so, please identify with specificity those aspects of Rule 14.H that must be changed? Should the same

interconnection rules for distributed generation apply to both the HECO companies and KIUC?

a. Rule 14.H Modifications to Encourage DG

RESPONSE: As indicated in the Consumer Advocate's Rebuttal Testimony, the Commission's DG policy setting decisions in this proceeding should provide that those interconnection standards and agreements be periodically reviewed and updated, particularly to incorporate those items addressed by HESS in its direct testimonies (see CA-RT-1, pages 51-55 and item 9 of the DG Matrix). KIUC should be required to develop interconnection standards and agreements and be subjected to the same requirements for periodic review and update, as necessary.

HECO's interconnection standards and agreements should not, however, be modified to specifically encourage DG. As indicated in the Consumer Advocate's Direct Testimony, the purpose of a utility's interconnection standards and agreement is to allow a facility to interconnect with the electric utility grid while addressing the following:

1. The need to maintain safety, reliability, power quality and safe restoration of service;
2. The need to protect the utility's equipment and the customer's equipment and facilities; and
3. The need to avoid any adverse impact on the operating efficiencies of the utility's system due to the interconnection of the customer-sited DG to the utility grid.

In general, the physical interconnection takes into account design, operating and technology specific requirements involving protection, synchronizing and control equipment. All DG facilities need to meet these requirements and should be subject to the same technical review and conform to the Utility's interconnection agreements and requirements. Having such standards in place provides a streamlined, and perhaps less time consuming, process for connecting customer-sited DG to the electric utility infrastructure. Thus, the purpose of the interconnection standards and agreements is not to encourage or discourage DG, but to provide the framework for the DG customer to interconnect with the grid in a manner that won't adversely impact on safety, reliability or power quality. Accordingly, HECO's interconnection standards and agreement should not be modified for the sole purpose of encouraging, nor discouraging, DG.

On the other hand, as discussed, certain interconnection requirements and standards and rates based on a utility's unbundled cost of service should be put in place so as to promote the cost effective development of customer and third-party owned and/or operated DG projects. It is important that such rates recognize the differences in risk and/or benefits that relate to the ownership structure and the operational capabilities and features of the DG projects and the locating operator of such projects as described in the Consumer Advocate's direct testimony (see CA-T-1, pages 69-78) and item 10 of the DG Matrix (see CA-RT-100, pages 10-11).

b. Should HECO and KIUC Interconnection Rules be the same?

RESPONSE: No. KIUC is in the process of developing its interconnection standards and agreement (see item 9.B. of the DG Matrix). That can address the specifics of its electric system and cooperative ownership structure.

PUC-IR-22 What has been the experience of the parties to date with interconnecting distributed generation facilities under either HECO's, HELCO's or MECO's Rule 14.H?

RESPONSE: The Consumer Advocate is unable to respond to this question since the Consumer Advocate has not been a party to any efforts to negotiate the interconnection of a generating facility located on a customer's premise to the utility's system.

Rate Structure and Cost Recovery

PUC-IR-23 Is the current allocation of distribution charges between customer, demand and usage charges adequate or should it be modified to accommodate DG? What is the appropriate allocation between utilities and ratepayers of revenues foregone as a result of the deployment of DG?

RESPONSE: See Section V.A. of the Consumer Advocate's Direct Testimony and Section III.B. of the Consumer Advocate's Rebuttal Testimony filed in this proceeding.

PUC-IR-24 Should credits be offered to customers or third parties that can defer the need for localized distribution expenditures. If yes, how should these credits be awarded, calculated and administered? And how should the cost of any credits or incentives be allocated and recovered by the distribution company?

RESPONSE: See Section V.A. of the Consumer Advocate's Direct Testimony and Section III.B. of the Consumer Advocate's Rebuttal Testimony filed in this proceeding.

PUC-IR-25 How can services be identified for unbundling and how should rates be calculated? Please comment on the viability of the Consumer Advocate's proposal for unbundling (Consumer Advocate Testimony, Witness Herz at 60-63). Will unbundling rates ensure that the utility recovers its cost of service from the customer benefiting from DG and does not shift costs to other ratepayers? (See, e.g., Witness Herz, testimony at 23, 60)

RESPONSE: See Section V.A. of the Consumer Advocate's Direct Testimony and Section III.B. of the Consumer Advocate's Rebuttal Testimony filed in this proceeding.

PUC-IR-26 Should the commission consider decoupling revenues from sales so that the utility is indifferent to installation of DG that has the effect of reducing sales?

RESPONSE: No, before the Commission considers this mechanism, the Commission should carefully consider the resources that would be required to monitor the impacts of the decoupling. See Section V.A. of the Consumer Advocate's Direct Testimony and Section III.B. of the Consumer Advocate's Rebuttal Testimony filed in this proceeding.

PUC-IR-27 Should the electric utilities institute termination charges (exit fees) for customers who install distributed generation and if so how should they be designed?

RESPONSE: No. See CA-T-1, page 78 and HECO RT-5 and RT-5A.

PUC-IR-28 Should standby rates similar to those implemented by HELCO (see Decision and Order No. 18575, filed on June 1, 2001, in Docket 99-0207) be adopted by HECO or MECO? Is the flat fee standby charge used by KIUC an appropriate approach for other utilities? Or should the Commission repeal and prohibit standby charges?

RESPONSE: No, the standby rates that were adopted for HELCO were based on the HELCO's costs of providing standby service. The standby rates for HECO and MECO should be based on HECO's and MECO's costs of providing the standby service, respectively. At this time, we are without sufficient information on the specifics of costs to provide standby service for HECO and MECO as this proceeding was not intended to develop the specific rates for each utility. Rather, the proceeding was to determine the policy decision as to whether a utility should be allowed to assess a standby rate, and if so, whether the rate should be assessed on customers who have installed a utility owned/operated DG on the customer's premise. The determination of the specific rate to be charged for standby service should be done in the context of a utility's rate case filing with an unbundled cost of service analysis for each respective utility, similar to the analysis performed to determine the rates charged by each utility for electric service provided on each island.

PUC-IR-29 Please provide comments on the issues below related to standby service proposals.

a. To the extent that standby rates are implemented (for those utilities that do not have them) or modified, should demand subscription or non-firm standby rates be included? Please comment on the viability and desirability of a non-firm or "best efforts" standby service (see e.g. County of Maui testimony, Witness Lazar at 78)

RESPONSE: See the response to PUC-IR-28. We are without sufficient information on the specifics of standby rates and their application, thus, the response to this question should be done in the context of a utility's rate case filing with an unbundled cost of service analysis on a utility-by-utility basis.

b. Should regulated utilities be required to charge themselves or their affiliates the same standby charges with respect to the regulated utility or affiliate owned, operated and maintained distributed generation facilities?

RESPONSE: Yes, the Commission should require Utilities to treat customers with utility-owned DG the same as customers with Non-Utility owned DG in terms of rates, charges and utility services in similarly situated circumstances.

c. Should standby rates be the same for all Hawaii electric utilities including KIUC?

RESPONSE: No, similar to the rates charged by each utility for electric service provided to the customers on each island, the standby rates should be based on the costs incurred by the utility to provide standby service. There should not be a one-size fits all rate as the costs of providing service differ among utilities, and among islands. The standby rates should take into consideration the cost of service each island, similar to the rates charged by HECO versus HELCO versus MECO island of Maui versus MECO island of Lanai versus MECO island of Molokai versus KIUC. The specifics of standby rates and their application and the response to this

question should be done in the context of a utility's rate case filing with an unbundled cost of service analysis on a utility-by-utility basis.

d. Should supplemental service be distinguished from stand-by service and if so, should supplemental service continue to be charged at the otherwise applicable tariff?

RESPONSE: The Consumer Advocate is not clear on the distinction between supplemental service versus stand-by service. If the Commission intended to distinguish between the two services, then yes, the rates charged for both supplemental versus standby service should be in accordance with the tariff that is based on the costs incurred by the utility to provide such service to the customers on each island. The specifics of standby rates and their application and the response to this question should be done in the context of a utility's rate case filing with an unbundled cost of service analysis on a utility-by-utility basis.

PUC-IR-30 Please describe the electric utilities' current policies regarding "hook up fees" or impact fees. Should existing policies regarding hook up fees be revised so as to remove barriers to development of distributed generation? Please comment on the County of Maui's proposal regarding impact fees. (see discussion County of Maui Testimony; e.g., Kobayashi at 12; Lazar at 18-19, 33)

RESPONSE: Existing policies regarding hook up fees are not barriers to DG. The County of Maui is requesting that higher fees be applied to customers that do not install DG and in doing so would provide additional incentives or encouragement for DG. See also response to PUC-IR-27.

PUC-IR-31 Should a systems benefit charge be adopted to recover costs of distributed generation? If yes, how should such a charge be established?

RESPONSE: We are without sufficient information on the specifics of systems benefit charge and thus, their application and the response to this question should be done in the context of a utility's rate case filing with an unbundled cost of service analysis on a utility by utility basis. See also the response to PUR-IR-9, part a.

PUC-IR-32 Will an inverted block rate design (see e.g. County of Maui, Witness Kobayashi at 12, Lazar at 86) result in better allocation of costs of new DG facilities? What are other benefits of inverted block rate design (if any) with respect to promoting DG?

RESPONSE: The specifics of inverted block rate design and their application and the response to this question should be done in the context of a utility's rate case filing with an unbundled cost of service analysis on a utility-by-utility basis. As previously stated, this proceeding was not about developing specific rates for the services provided by each utility, but was about making the policy determinations that would successfully deploy DG in the State. See also the response to PUC-IR-9, part a.

PUC-IR-33 How should costs associated with distributed generation be recovered?

a. How should the costs of fuel purchased for utility owned, customer site DG facilities be handled? Should it be included in the energy rate adjustment clause applicable to all customers or recovered in some other manner?

RESPONSE: Yes, provided the utility-owned, customer-sited DG is included with the utilities other resources to serve the needs of all customers (see item 12-D-1 of the DG Matrix).

b. Should regulated utilities be permitted to include in their regulated rates the cost of distributed generation equipment and its maintenance?

RESPONSE: Yes, provided the utility-owned DG is included with the utilities other resources to serve the needs of all customers, subject of course to the rate filing review and scrutiny.

Integrated Resource Plan Process

PUC-IR-34 How should the existing IRP process and the deployment of DG be synchronized to maximize the benefits of DG?

RESPONSE: See section V of the Consumer Advocate's Direct Testimony and Section III.C. of the Consumer Advocate's Rebuttal Testimony.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing **DIVISION OF CONSUMER ADVOCACY'S RESPONSES TO THE PUBLIC UTILITIES COMMISSION'S INFORMATION REQUESTS** was duly served upon the following parties, by personal service, hand delivery, and/or U.S. mail, postage prepaid, and properly addressed pursuant to HAR § 6-61-21(d).

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